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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,863	11/26/2003	Ian Robinson	NG(ST)-6508	8605
26294 7590 12/18/2006 TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 1300 EAST NINTH STREET, SUITE 1700 CLEVEVLAND, OH 44114			EXAMINER LEE, JOHN J	
			ART UNIT	PAPER NUMBER
			2618	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/18/2006	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/722,863

**Applicant(s)**

ROBINSON, IAN

**Examiner**

JOHN J. LEE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15 is/are allowed.
- 6) ☒ Claim(s) 16-18, 20-24, 26-29 and 31-39 is/are rejected.
- 7) ☒ Claim(s) 19, 25, 30 and 40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/26/03, 5/11/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 16, 18, 20-24, 26-29, and 31-39** are rejected under 35 U.S.C. 102(b) as being anticipated by Lundqvist et al. (US 5,640,679).

Regarding **claim 16**, Lundqvist teaches that a plurality of base transceivers (BS1, 2 in FIG. 1), each BTS receives a primary uplink frequency (Fig. 1) and a transmits at a primary downlink frequency (Fig. 1) for communicating as a primary BTS with assigned mobile units (MS in Fig. 1) (Fig. 1 and column 2, lines 45 – column 3, lines 65, where teaches the base stations, BA1, BA2, connects with mobile switching center for controlling and each base station receives a primary uplink frequency from mobile terminals and a transmits a primary downlink frequency to the mobile terminals as primary base station), and each BTS unit (BA1, BA2 in Fig. 1) being capable as a secondary BTS to monitor at least one additional frequency associated with an unassigned mobile unit (Fig. 1, abstract and column 2, lines 45 – column 3, lines 65, where teaches each base station as a secondary base station (target base station) to monitor an additional frequency (channel 1 for first base station and channel 2 for second base station) for other mobile station). Lundqvist teaches that a controller (MSC as base station controller in Fig. 1) that receives information from the plurality of BTS's based on

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signals each BTS receives from respective assigned mobile units and at least one unassigned mobile unit (column 3, lines 8 – column 4, lines 50 and Fig. 1, 3, where teaches the base stations report the information for mobile terminal measuring results to MSC (base station controller) based on signals that BA1 and BA2 receives form the mobile terminals).

Regarding **claim 18**, Lundqvist teaches that the controller commanding one of a primary BTS and a secondary BTS (target base station) to send soft handover data to a given mobile for controlling to which of at least the first and second BTS's the mobile unit should be connected based on the information received from the plurality of BTS's (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can control the base stations and transmits handoff commands to base stations for mobile terminal can control of the base stations).

Regarding **claim 20**, Lundqvist teaches that at least one of received signal strengths, signal interference, error rate, direction of travel, carrier to noise ratio and load balancing (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches information including receiving signal strengths, signal interference).

Regarding **claim 21**, Lundqvist teaches that the controller commanding one of the secondary BTS's to become a new primary BTS for the mobile unit and to notify the mobile unit to switch to the new BTS (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can control the base stations and transmits handoff commands to base stations for one of neighbor base stations to became primary base station, and informs to switch to the new base station to mobile terminal).

Regarding **claim 22**, Lundqvist teaches that the controller providing a contingency plan to each of the plurality of BTS's for instructing at least the assigned mobile units to enable handover to a selected secondary BTS identified by the contingency plan (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can continuously control the base stations and transmits handoff commands to base stations for assigning the mobile terminals).

Regarding **claim 23**, Lundqvist teaches that a contingent frequency associated with the selected secondary BTS for the mobile unit to switch to in the event the mobile unit loses contact with the primary BTS (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can continuously control the base stations and transmits handoff commands to base stations for one of neighbor base stations to become primary base station, and informs to switch to the new base station to mobile terminal even though the mobile terminal can loss connect with new primary base station).

Regarding **claim 24**, Lundqvist teaches that the controller updating the contingency plan at a predetermined interval (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can continuously control the base stations and transmits handoff commands to base stations for assigning the mobile terminals).

Regarding **claim 26**, Lundqvist teaches that the selected secondary BTS communicates with the selected one of the assigned mobile units during an unused time

slot for the selected one of the assigned mobile units (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5).

Regarding **claim 27**, Lundqvist teaches that the at least one additional frequency comprises the primary uplink frequency for at least an adjacent one of the plurality of BTS's (Fig. 1, abstract and column 2, lines 45 – column 3, lines 65, where teaches each base station receives the primary uplink frequency for a secondary base station (target base station) of a plurality of neighbors base stations to monitor an additional frequency (channel 1 for first base station and channel 2 for second base station).

Regarding **claim 28**, Lundqvist teaches all the limitation, as discussed in claims 21 and 23.

Regarding **claim 29**, Lundqvist teaches all the limitation, as discussed in claims 16 and 24.

Regarding **claim 31**, Lundqvist teaches all the limitation, as discussed in claims 16 and 24. Furthermore, Lundqvist teaches that for monitoring a predetermined contingency frequency, the predetermined contingency frequency being used by the mobile unit when the mobile unit cannot adequately communicate with a primary BTS associated with the mobile unit (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can continuously control the base stations and transmits handoff commands to base stations for one of neighbor base stations to become primary base station, and informs to switch to the new base station to mobile terminal even though the mobile terminal can loss connect with new primary base station).

Regarding **claim 32**, Lundqvist teaches that for removing the contingent carrier after establishing a connection between the contingent BTS and the mobile unit (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5).

Regarding **claim 33**, Lundqvist teaches all the limitation, as discussed in claims 16 and 31. Furthermore, Lundqvist teaches that monitoring a connection between a mobile unit and a second BTS (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can continuously control the base stations and transmits handoff commands to base stations for one of neighbor base stations to become primary base station, and monitoring the mobile terminal can loss connect with new primary base station). Lundqvist teaches that adding a downlink carrier for the first BTS to communicate with the mobile unit (Fig. 1, abstract and column 2, lines 45 – column 3, lines 65, where teaches each base station as a secondary base station (target base station) to monitor an additional frequency (channel 1 for first base station and channel 2 for second base station) for communicating mobile station). Lundqvist teaches that sending a signal to the mobile unit to cause the mobile unit to switch from the connection with the second BTS and to connect with the first BTS via the downlink carrier (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can control the base stations and transmits handoff commands to base stations, and informs to switch to the new base station to mobile terminal, and the new primary base station transmits the signal).

Regarding **claim 34**, Lundqvist teaches that an uplink frequency for the mobile unit to communicate with the first BTS (Fig. 1, abstract and column 2, lines 45 – column 3, lines 65).

Regarding **claim 35**, Lundqvist teaches all the limitation, as discussed in claims 16 and 31.

Regarding **claim 36**, Lundqvist teaches all the limitation, as discussed in claims 32 and 33. Furthermore, the downlink carrier is sent on the predetermined contingency frequency (column 5, lines 42 – column 6, lines 63 and Fig. 3, 5, where teaches the base station controller (MSC) can continuously control the base stations and transmits handoff commands to base stations for one of neighbor base stations to become primary base station).

Regarding **claim 37**, Lundqvist teaches all the limitation, as discussed in claims 32 and 33.

Regarding **claim 38**, Lundqvist teaches all the limitation, as discussed in claims 21 and 28.

Regarding **claim 39**, Lundqvist teaches all the limitation, as discussed in claims 16 and 29.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person



having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist in view of Sekine et al. (US 2001/0024430).

Regarding **claim 17**, Lundqvist does not specifically teach the limitation “a combining unit for combining the data sent by each BTS to improve reception of the signal from the mobile units in the system”. However, Sekine teaches the limitation “a combining unit for combining the data sent by each BTS to improve reception of the signal from the mobile units in the system” (Fig. 2 and pages 3, paragraphs 43 – 44, where teaches when a plurality of base stations receive data from the same mobile station, and send the data to the mobile communication control center, the combiner selectively combines the received data for reception reliability). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lundqvist system as taught by Sekine, provide the motivation to improve the signal reception in mobile communication system.

***Allowable Subject Matter***

5. Claims 1– 15 are allowed.

Claims 1 – 15 are allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claims 1 – 15.

As recited in independent claim 1, none of the prior art of record teaches or fairly suggests that a first and second for each base transceiver (BTS) unit that receives on a first and second for each primary uplink frequency and is capable of each adding at least

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one secondary uplink frequency, and the first and second for each BTS transmits on a first and second for each primary downlink frequency and is capable of each adding at least one secondary downlink frequency, and a controller associated with the first and second BTS, the controller controls to which of at least the first and second BTS's a mobile unit should be connected based on a signal received by the first and second BTS's from the mobile unit, the controller causes one of the first and second BTS's to add a new carrier to communicate with the mobile unit based on the controller determining that the mobile unit should switch to the one of the first and second BTS's, and together with combination of other element as set forth in the claims 1 - 15. Therefore, claims 1 - 15 are allowable over the prior art of records.

6. Claims 19, 25, 30, and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose “the controller employs the information received from the plurality of BTS's to determine characteristics associated with at least one of a propagation environment and signal interference for the mobile unit, the controller controlling to which of the first and second BTS's the mobile unit should be connected based on the at least one of a propagation environment and signal interference for the mobile unit, and for causing the primary BTS to stop transmitting during a time slot assigned to the mobile unit based on the determination” as specified in the claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dupuy et al. (US 5,613,203) discloses Handover Method and Device for a Cellular Mobile Radio System.

Schorman et al. (US 6,101,175) discloses Handoff within a Communication System.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231  
Or P.O. Box 1450  
Alexandria VA 22313

or faxed (571) 273-8300, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters, Alexandria, VA.

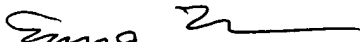
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00

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pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Edward Urban**, can be reached on (571) 272-7899. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L  
December 9, 2006

John J Lee

  
EDWARD E. URBAN  
SUPERVISOR, EXAMINER  
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